

AMENDMENTS

In the Specification:

Page 6, line 38, to page 7, line 3, amend the paragraphs as follows:

Figs. 4 to 6 show sections through the shaft at different heights thereof, with Fig. 4 being drawn transversely in the region of reference numeral 2 on Fig. 1, Fig. 5 being drawn transversely in the region of reference numeral 9 on Fig. 1 and Fig. 6 being drawn transversely in the region of reference numeral 17 on Fig. 1, and

~~Figs 7 and 8 show sections~~ Fig. 7 shows a section, corresponding to Figs Fig. 5 and 6, of the embodiment with a rectangular shaft core cross-section.

Page 8, line 1, to page 8, line 16, amend the paragraphs as follows:

Below the transition area 9, the distal shaft portion 7 has a length of approximately 4 to 8, preferably approximately 6 to 7 cm. Its core 12 tapers from its proximal end 9 to its distal end 11 in a ratio of approximately 10 to 15 mm²/cm. The tapering takes place principally on the lateral and medial sides. The LM dimension 13 at the upper end 9 of the distal portion, which dimension is approximately 17 mm ~~in a first example according to Fig. 5,~~ decreases as far as the distal end 11, according to Fig. 6, ~~to a diameter of 10 mm, whereas the dimension 15 in the AP direction decreases only by approximately 2 to 3 mm. In the example according to Figs 7 and 8,~~ the LM dimension decreases from approximately 18 to approximately 14 mm.

In the distal portion, the surface of the shaft core is equipped with ribs 16 which between them enclose surface strips 17 of the shaft core surface. The ribs arranged on the longitudinal edges of the rectangular cross section are indicated in Fig. 6 by reference numeral 21. At the transition 9, the ribs 16 merge with zero height into the shaft surface, and at the distal end 11 they reach a height of approximately 1 mm above the shaft core surface. On account of the reduction in cross section of the shaft core from proximal to distal, the surface strips 17 formed between the ribs act as wedge surfaces which, when the shaft is driven into the medullary canal, compress the predominantly lamellar bone substance located there in the interspace between the

surface of the shaft core and the cortical boundary of the medullary space. The bone substance cannot be squeezed off to the sides and escape, because it is held securely by the ribs 16. In this way, strong and compact force transmission bridges are created between the prosthesis shaft and the cortical boundary of the medullary space, even in those areas of the shaft cross section which, without this compression, would not reach the cortical boundary of the medullary space and would therefore not be able to take part in the force transmission. Since the decrease in the shaft cross-sectional dimension is greater in the LM direction than in the AP direction, the strongest compression takes place on the lateral and medial flanks of the shaft. The most effective force transmission bridges will also therefore be formed there by compression of bone substance. This is advantageous in view of the fact that most of the forces have to be transmitted in this direction between prosthesis shaft and bone. However, a wedge shape is also present on the anterior and posterior faces of the shaft and can bring about a corresponding effect there.

Page 9, delete lines 13-16..

Page 9, line 28, to page 10, line 9, amend the paragraph as follows:

~~Figs 7 and 8 show the embodiment with~~ The shaft core has, at least near its distal end, a
rectangular shaft cross-section. ~~Unless otherwise stated below, the above comments regarding~~
~~Figs 5 and 6 also apply here. The main difference from the embodiment with the oval cross-~~
~~section is that the~~ The ribs 21 arranged on the longitudinal edges perform a [[more]] particularly
pronounced guidance function because of their position. Even if a shaft portion were to lie
eccentrically offset in the ventral or dorsal direction in the medullary canal, it can ~~thus safely~~ be
assumed that, in the distal portion, a rib located on a lateral edge will come into engagement with
the surface of the medullary space. To ensure that this is also the case with a particularly
unfavorable position of the shaft or an unfavorable shape of the cross-section of the medullary
space, according to the invention the ribs provided on the lateral edges should also be prominent
compared to the rest of the lateral surfaces of the shaft cross-section, as has been indicated

above. The same applies to the relationship of the lateral edge ribs to the ventral and dorsal surface parts of the shaft.